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Mazdoor Kisan Shakti Sangathan

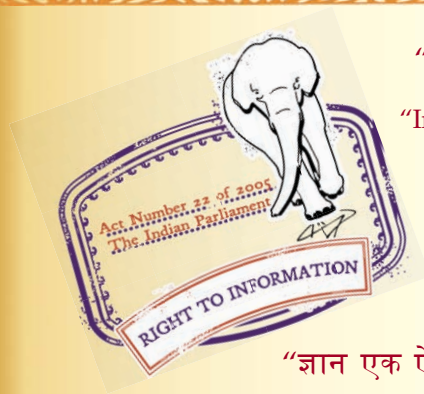
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“पुराने को छोड़ नये के तरफ”

Jawaharlal Nehru

“Step Out From the Old to the New”

IS 11455-4 (1992): Outline dimensions of transformers, inductors for use in telecommunication, electronic equipment, Part 4: Transformers, inductors using Q series of C cores [LITD 5: Semiconductor and Other Electronic Components and Devices]



“ज्ञान से एक नये भारत का निर्माण”

Satyanarayan Gangaram Pitroda

“Invent a New India Using Knowledge”



“ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है”

Bhartrhari—Nitiśatakam

“Knowledge is such a treasure which cannot be stolen”

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भारतीय मानक

दूरसंचार और इलैक्ट्रानी उपस्कर में प्रयुक्त ट्रांसफार्मरों और
इंडक्टरों के बाहरी आयाम

भाग 4 C-क्रोडो के Q-श्रेणी प्रयोजी ट्रांसफार्मर और इंडक्टर

Indian Standard

OUTLINE DIMENSIONS OF
TRANSFORMERS AND INDUCTORS
FOR USE IN TELECOMMUNICATION
AND ELECTRONIC EQUIPMENT

PART 4 TRANSFORMERS AND INDUCTORS USING Q-SERIES OF C-CORES

UDC 621.318.1.042.1 : 621.314.21 : 621.318.43 : 006.78 : 621.38/39.038

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NEW DELHI 110002

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Price Group 2

FOREWORD

This Indian Standard was adopted by the Bureau of Indian Standards, after the draft finalized by the Transformers and Inductors for Electronic Equipment Sectional Committee had been approved by the Electronics and Telecommunication Division Council.

This standard (Part 4) deals with the dimensions of transformers and inductors using Q series of C-cores for assembly forms such as H, J and U. The requirements of G-cores are covered in IS 8644 : 1977 'Strip wound cut cores of grain oriented silicon iron alloy'.

This standard (Part 4) has been largely based on IEC Doc : 51 (Sec) 241 'Outline dimensions of transformers and inductors for use in telecommunication and electronic equipment — Part 4 : Transformers and inductors using Q series of C-cores' circulated by the International Electrotechnical Commission (IEC).

This Indian Standard is a part of series of Indian Standards on outline dimensions of transformers and inductors for use in telecommunication and electronic equipment. The other parts of the series are given below:

Part 1 Transformers and inductors using YEI-1 laminations:

Sec 1 Universal mounting

Sec 2 U-clamp mounting

Sec 3 Printed wiring board mounting

Part 2 Transformers and inductors using YEX-2 Laminations for printed wiring board mounting.

Part 3 Transformers and inductors using YUI-1 laminations.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated, expressing the result of a test or analysis, shall be rounded off in accordance with IS 2 : 1960 'Rules for rounding off numerical values (revised)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

Indian Standard

OUTLINE DIMENSIONS OF TRANSFORMERS AND INDUCTORS FOR USE IN TELECOMMUNICATION AND ELECTRONIC EQUIPMENT

PART 4 TRANSFORMERS AND INDUCTORS USING Q SERIES OF C-CORES

1 SCOPE

This standard (Part 4) specifies the requirements of outline dimensions of transformers and inductors using the Q series of C-cores, for H, J and U assembly forms.

2 REFERENCES

The following Indian Standards are necessary adjuncts to this standard:

IS No.	Title
1364 (Part 2) : 1983	Hexagon screws (size range M 3 to M 36) (<i>second revision</i>)
1573 : 1970	Electroplated coatings of zinc on iron and steel (<i>second revision</i>)
1821 : 1987	Dimensions for clearance holes for bolts and screws (<i>second revision</i>)
4218 (Part 4) : 1976	ISO Metric screw threads: Part 4 Tolerancing system (<i>first revision</i>)

3 TERMINOLOGY

3.0 For the purpose of this standard the following definitions shall apply.

3.1 Form H and Form J Assemblies

Assemblies of double loop C-cores mounted by tapped holes on the top or bottom of the assembly with the magnetic axis horizontal.

NOTE — A terminal board forms an integral part of the assembly. In form J assemblies, the reduced height is primarily achieved by having negligible clearance between the terminal board and the remainder of the assembly. This feature restricts the number of terminals which can be fitted and a form J assembly is therefore used for simpler windings such as chokes.

3.2 Form U Assemblies

Assemblies of double loop C-cores mounted by clearance holes on four faces with the magnetic axis horizontal or vertical.

NOTE — No provision is made for terminals, but unused mounting holes may be used to fix a terminal board.

4 DIMENSIONS

The dimensions of the various assembly forms using the Q series of C-cores shall be in accordance with Tables 1 and 2. All dimension include an allowance for a protective coating. The completed assembly shall be capable of accepting a gauge of the specified fixing centre dimensions and specified fixing hole size.

NOTES

1 Each assembly is given a unique code for reference purposes. This is of the form Qa.bZ where:

Q = the particular series of C-cores used in these assemblies,

a = a number indicating a particular core within the Q series,

b = a strip width, and

Z = a letter which denotes the form of assembly used in accordance with 3.

2 The C dimensions given for form H and form J assemblies include a terminal board, but no allowance is made for the height of terminals as this will vary with application. The C dimensions for form C assemblies makes no allowance for the height of terminals.

No allowance has been made for terminal boards on form U assemblies; the use of these may increase dimensions.

3 In form U assemblies, slotted fixing holes may be used to compensate for minor variations in assembly such as stack height.

4 The purpose of the figures included in Tables 1 and 2 is to provide a guide to the appearance of the completed assembly and references for the corresponding dimensions. They are not intended to specify details of the piece parts.

5 FIXING SCREWS AND THREADS WITH MOUNTING HOLES AND SLOTS

Assembly forms H, J and U shall be supplied with ISO metric, fixing screws of diameter as given in Tables 1 and 2 having screw threads which are metric coarse, medium fit M 4 × 0.7 — 6 g, M 5 × 0.8 — 6 g, M 6 × 1.0 — 6 g or M 8 × 1.25 — 6 g as appropriate, in accordance with IS 4218 (Part 4) : 1976.

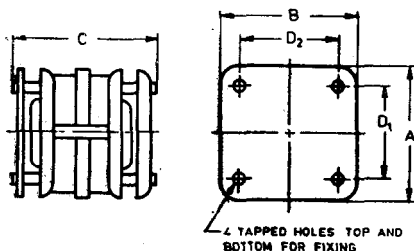
The associated tapped holes shall comply with 6 H class of fit in accordance with IS 4218 (Part 4) : 1976.

Associated clearance holes shall have diameters not greater than the medium series value corresponding to the specific screw diameter, in accordance with IS 1821 : 1987.

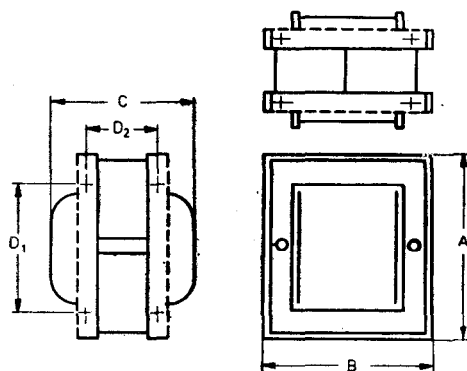
NOTE — Where slotted fixing holes are used in place of holes (see Note 3 of 4), the width of such slots should correspond to the diameter of the clearance hole given above, and the length of the slot should not exceed 1.5 times its width.

Table 1 Dimensions of Form H and Form J Assemblies of Q Series C-Cores

(Clauses 4.1 and 5.1)



Assembly Reference	A Max (mm)	B Max (mm)	Form H C Max (mm)	Form J C Max (mm)	D ₁ ± 1 T 12 (mm)	D ₂ ± 1 T 12 (mm)	Fixing Screw Size
Q 5.1 H or J			66.5	53.8			
Q 5.2 H or J			72.9	60.2			
Q 5.3 H or J	72	67	79.2	66.5	49.2	46.0	M 4
Q 5.4 H or J			91.9	79.2			
Q 6.1 H or J			73.2	60.5			
Q 6.2 H or J			79.5	66.8			
Q 6.3 H or J	84	82	85.9	73.2	61.9	58.7	M 4
Q 6.4 H or J			92.2	79.5			
Q 7.1 H or J			87.9	75.2			
Q 7.2 H or J			94.2	81.5			
Q 7.3 H or J	91	89	100.5	87.8	66.7	65.1	M 5
Q 7.4 H or J			106.9	94.2			
Q 8.1 H or J			97.2	84.5			
Q 8.2 H or J			103.6	90.9			
Q 8.3 H or J	110	102	113.0	100.3	80.9	73.0	M 5
Q 8.4 H or J			125.7	113.0			
Q 9.1 H or J			107.4	94.7			
Q 9.2 H or J			117.1	104.4			
Q 9.3 H or J	138	122	126.5	113.8	101.6	87.3	M 6
Q 9.4 H or J			139.2	126.5			
Q 10.1 H or J			126.7	114.0			
Q 10.2 H or J			139.4	126.7			
Q 10.3 H or J	162	140	152.1	139.4	123.8	103.2	M 8
Q 10.4 H or J			172.7	160.0			
Q 11.1 H or J			158.7	146.0			
Q 11.2 H or J	213	106	177.8	165.1	165.1	133.4	M 8

Table 2 Dimensions of Form U Assemblies of Q Series C-Cores(*Clauses 4.1 and 5.1*)

Assembly Reference	A Max (mm)	B Max (mm)	C Max (mm)	D ₁ * ± 1 T 12 (mm)	D ₂ * ± 1 T 12 (mm)	Fixing Screw Size
Q 5·1 U			48		27	M 4
Q 5·2 U			54		33	
Q 5·3 U	68	69	60	50·8	40	
Q 5·4 U			73		52	
Q 6·1 U			56		27	M 4
Q 6·2 U			62		33	
Q 6·3 U	82	87	66	63·5	40	
Q 6·4 U			75		46	
Q 7·1 U			70		36	M 5
Q 7·2 U			76		43	
Q 7·3 U	89	92	83	69·9	49	
Q 7·4 U			89		55	
Q 8·1 U			81		40	M 5
Q 8·2 U			88		46	
Q 8·3 U	111	105	97	88·9	56	
Q 8·4 U			110		65	
Q 9·1 U			94		40	M 6
Q 9·2 U			104		49	
Q 9·3 U	137	125	113	111·0	59	
Q 9·4 U			126		72	
O 10·1 U			116		54	M 8
O 10·2 U			129		66	
O 10·3 U	162	143	142	133·0	79	
O 10·4 U			161		98	
O 11·1 U			125		56	M 8
O 11·2 U	207	180	145	165·0	78	

* This dimension may correspond to the centres of fixing slots (see 4).

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TO
IS 11455 (PART 4) : 1992 OUTLINE DIMENSIONS OF
TRANSFORMERS AND INDUCTORS FOR USE IN
TELECOMMUNICATION AND ELECTRONIC
EQUIPMENT

PART 4 TRANSFORMERS AND INDUCTORS USING
Q-SERIES OF C-CORES

(*Foreword, third para*) — Substitute the following for the existing para:

“This standard (Part 4) is largely based on IEC 60852-5(1994) ‘Outline dimensions of transformers and inductors for use in telecommunication and electronic equipment: Part 5 Transformers and inductors using the series Q of C-cores’, issued by International Electrotechnical Commission.”

(*Page 2, Table 1, col 3, last row*) — Substitute ‘186’ for ‘106’.

(*Page 3, Table 2, col 4, seventh row*) — Substitute ‘69’ for ‘66’.

(*Page 3, Table 2, col 6, sixteenth row*) — Substitute ‘69’ for ‘65’.

(*Page 3, Table 2, col 6, penultimate row*) — Substitute ‘59’ for ‘56’.

(LTD 13)